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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,926	05/10/2001	Ian John Patrick James	360.7418USU	5843

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EXAMINER

DAMIANO, ANNE L

ART UNIT	PAPER NUMBER
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2114

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/852,926

Applicant(s)

JAMES

Examiner

Anne L. Damiano

Art Unit

2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/10/01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Great Britain on May 11th 2000. It is noted, however, that applicant has not filed a certified copy of the 0011251.6 application as required by 35 U.S.C. 119(b).

Drawings

2. Figures 1, 2a, 2b, 2c, 2d and 2e should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

4. Claim 5 is objected to because of the following informalities: The claim ends with a semicolon, rather than with a period. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Longwell et al. (6,560,725).

As in claim 1, Longwell discloses a fault monitoring system comprising:

A fault detection mechanism for providing a fault status indication of a parameter to be monitored (column 1: lines 6-9, and column 6: lines 22-25);

An integrator for incrementing a count in one direction by a predetermined fault increment when the fault detection mechanism provides a fault indication, and for incrementing said integrator count in an opposite direction (decrementing is incrementing in an opposite direction of incrementing) by a predetermined no-fault increment in the absence of fault detection (column 6: line 66-column 7: line 4);

A threshold detector for generating a hard fault indication when the integrator count reaches a threshold value (column 4: lines 47-53);

An integrator count monitor for generating information indicative of the state of the integrator count when below the threshold value thereby to provide an indication of the

Art Unit: 2114

progression of the fault (error patterns) (abstract: lines 9-11, column 2: lines 44-49, column 3: line 63-column 4: line 7 and column 4: lines 60-64). (The system tracks error patterns by using a counter: incrementing it when an error occurs and decrementing it when an error does not occur. So, when the count does not reach the threshold value, information is still generated to indicate the state of the counter (column 4: lines 6-7).)

As in claim 2 Longwell discloses the system of claim 1, further comprising a correlator for correlating (facilitating an identification of trends) said information generated by the integrator count monitor with system operating parameters so as to provide a fault status or a diagnostic in response to the correlation (column 2: lines 24-31, column 4: lines 14-23 and lines 47-59). (Enabling a redundant storage element is providing a diagnostic in response to the correlation.)

As in claim 3, Longwell discloses the system of claim 2 wherein the predetermined fault increment is greater than or equal to the predetermined no-fault increment (column 6: line 66-column 7: line 10). (The fault increment is incrementing the high-order portion of the error counter. The no-fault increment is decrementing of the full error counter meaning the lower-ordered bits are decremented. Therefore, the fault increment is greater than the no-fault increment.)

As in claim 4, Longwell discloses the system of claim 2 wherein the integrator count monitor is operative to generate a further indication dependent on the integrator count relative to

Art Unit: 2114

a sub-threshold value which is set below the threshold value (column 4: lines 47-52 and line 60-column 5: line 5). (The system is able to identify gradually degrading performance as well as hard errors. Therefore some lower level threshold must be existent in the system to identify performance degradation that is not a hard error.)

As in claim 5, Longwell discloses the system of claim 4 wherein said information indicative of the state of the integrator count is the frequency with which the integrator count exceeds the sub-threshold value (column 1: lines 56-59, column 2: lines 46-50 and column 5: lines 6-9). (An error history comprising a record of each detected error will show when the integrator count exceeded the sub-threshold values.)

As in claim 6, Longwell discloses the system of claim 4 wherein said information indicative of the state of the integrator count is the total time said sub-threshold value is exceeded (column 1: lines 56-59, and column 5: lines 22-31).

As in claim 7, Longwell discloses the system of claim 4 wherein said information indicative of the state of the integrator count is the maximum continuous period the integrator count exceeds said sub-threshold value (column 7: lines 11-18).

As in claim 8, Longwell discloses the system of claim 2 wherein the correlating means is operative for correlating said information indicative of the state of the integrator with operating phases of the system and for generating appropriate system health messages (column 7: lines 33-

37). (Identifying good performance and adjusting system parameters implies that some form of message must have been generated to indicate the health of the integrator to the rest of the system.)

As in claim 9, Longwell discloses the system of claim 1 wherein the integrator count monitor is operative to generate an indication of the ratio between the count in the one direction and the count in the opposite direction for providing information as to the direction of the progression of the sensed fault relative to a hard fault condition (column 4: lines 47-52 and column 6: line 66-column 7: line 10). (The higher-order portion of the counter is incremented when a fault occurs and the whole counter is decremented when a failure does not occur. Therefore, the counter is a logical association between the fault and no-fault counters. A logical association is a ratio. The ration is compared against the hard fault threshold value, thereby indicating the progression of the sensed fault relative to a hard fault condition)

As in claim 10, Longwell discloses the system of claim 9 wherein the predetermined fault increment is greater than or equal to the predetermined no-fault increment. (column 6: line 66-column 7: line 10). (The fault increment is incrementing the high-order portion of the error counter. The no-fault increment is decrementing of the full error counter meaning that the lower-ordered bits are decremented. Therefore, the fault increment is greater than the no-fault increment.)

As in claim 11, Longwell discloses the system of claim 9 further comprising a correlator for correlating said information generated by the integrator count monitor with system operating parameters so as to provide a fault status or a diagnostic in response to the correlation (column 2: lines 24-31, column 4: lines 14-23 and lines 47-59). (Enabling a redundant storage element is providing a diagnostic in response to the correlation.)

As in claim 12, Longwell discloses the system of claim 11 wherein the correlator is operative for correlating said information indicative of the state of the integrator with operating phases of the system and for generating appropriate system health messages (column 7: lines 33-37). (Identifying good performance and adjusting system parameters implies that some form of message must have been generated to indicate the health of the integrator to the rest of the system.)

As in claim 13, Longwell discloses the system of claim 9 wherein the ratio is an averaged ratio over a predetermined period of time (column 7: lines 33-37). (Since the counter is added to or subtracted from according to faults, the counter will ultimately be an intermediate ratio.)

As in claim 14, Longwell discloses the system of claim 9 wherein the ratio is an averaged ratio for the duration of a specified system operating condition (scrub sequence) (column 6: lines 43-47 and column 7: lines 33-37). (Since the counter is added to or subtracted from according to faults, the counter will ultimately be an intermediate ratio.)

As in claim 15, Longwell discloses a method of providing an indication of the progression of a fault (column 1: lines 6-9, and column 6: lines 22-25), the method comprising: monitoring a parameter to detect the fault; incrementing an integrator count in one direction when the fault is detected; incrementing the integrator count in an opposite direction (decrementing is incrementing in an opposite direction of incrementing) in the absence of fault detection; generating a hard fault indication when the integrator count reaches a threshold value (column 4: lines 47-53); and generating information indicative of the state of the integrator count when below the threshold value (error patterns). (abstract: lines 9-11, column 2: lines 44-49, column 3: line 63-column 4: line 7 and column 4: lines 60-64). (The system tracks error patterns by using a counter: incrementing it when an error occurs and decrementing it when an error does not occur. So, when the count does not reach the threshold value, information is still generated to indicate the state of the counter (column 4: lines 6-7).)

As in claim 16, Longwell discloses the method of claim 15 further comprising correlating (facilitating an identification of trends) said information indicative of the state of the integrator count with system operating parameters; and providing a fault status or diagnostic in response to the correlation. (column 2: lines 24-31, column 4: lines 14-23 and lines 47-59). (Enabling a redundant storage element is providing a diagnostic in response to the correlation.).

As in claim 17, Longwell discloses the method of claim 15 wherein generating information indicative of the state of the integrator count includes generating an indication of the ratio between the count in the one direction and the count in the opposite direction thereby

providing information as to the direction of the progression of the sensed fault relative to a hard fault condition (column 4: lines 47-52 and column 6: line 66-column 7: line 10). (The higher-order portion of the counter is incremented when a fault occurs and the whole counter is decremented when a failure does not occur. Therefore, the counter is a logical association between the fault and no-fault counters. A logical association is a ratio. The ration is compared against the hard fault threshold value, thereby indicating the progression of the sensed fault relative to a hard fault condition)

As in claim 18, Longwell discloses the method of claim 17 wherein generating an indication of the ratio between the count in the one direction and the count in the opposite direction includes averaging the ratio over a predetermined period of time (column 7: lines 33-37). (Since the counter is added to or subtracted from occurring to faults, the counter will ultimately be an intermediate ratio.)

As in claim 19, Longwell discloses the method of claim 17 wherein generating an indication of the ratio between the count in the one direction and the count in the opposite direction includes averaging the ratio for the duration of a specified system operating condition (scrub sequence) (column 6: lines 43-47 and column 7: lines 33-37). (Since the counter is added to or subtracted from occurring to faults, the counter will ultimately be an intermediate ratio.)

As in claim 20, Longwell discloses the method of claim 16 wherein generating information indicative of the state of the integrator count includes generating an indication

dependent on the integrator count relative to a sub-threshold value which is set below the threshold value (column 4: lines 47-52 and line 60-column 5: line 5). (The system is able to identify gradually degrading performance as hard errors. Therefore some lower level threshold must be existent in the system to identify performance degradation that is not a hard error.)

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne L Damiano whose telephone number is (703) 305-8010. The examiner can normally be reached on M-F 9-6:30 first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (703) 305-9713. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

ALD


SCOTT BADERMAN
PRIMARY EXAMINER